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i2 SUMMIT

IS SPOTTY CALCIFICATION REVEALED BY GRAY SCALE INTRAVASCULAR ULTRASOUND REALLY VULNERABLE? A VIRTUAL HISTOLOGY INTRAVASCULAR ULTRASOUND STUDY

i2 Poster Contributions
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Background: It is reported that spotty calcification revealed by gray scale intravascular ultrasound(IVUS) is largely present in acute myocardium infarction(AMI) and is vulnerable plaque. VH was used to study differences in vulnerability according to calcification morphology, including spotty calcification revealed by gray scale IVUS.

Methods: Subjects were 141 patients with 153 lesions, who underwent percutaneous coronary intervention for coronary stenosis and were studied by VH before stent implantation.Lesions were classified as follows : Lesions with no calcification were grouped in the no calcification group(n=11); calcification under 90°, the spotty calcification group(n=82); 90°or more and under 180°, the intermediate calcification group(n=35); and 180°or more, the extensive calcification group(n=25).

Results: Results are as shown in the following table. Spotty calcification was revealed in 59%(41/70) of AMI, 48%(27/56) of SAP, and 52%(14/27) of UAP. DC in the spotty group was significantly lower than the intermediate and extensive groups($p<0.01$). NC in the spotty group was significantly lower than the extensive groups($p<0.05$). NC/DC in the spotty group was significantly higher than the intermediate and extensive group($p<0.01$).

Conclusion: Spotty calcification in gray scale IVUS has a higher NC/DC ratio in VH-IVUS compared to intermediate and extensive calcification, and is believed to have a higher degree of vulnerability.

Relationship Between Calcification Pattern and VH-IVUS findings

	No calcification group(n=11)	Spotty calcification group(n=82)	Intermediate calcification group(n=35)	Extensive calcification group(n=25)
Dense calcium (%)	6.5±3.1	8.8±4.6	14.2±4.9	19.7±6.0
Necrotic core (%)	10.9±5.5	15.2±6.7	17.2±4.4	18.8±3.7
NC/DC	1.68±0.30	1.96±0.90	1.30±0.39	1.02±0.26